Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) System for enhancing the hearing of certain sounds, the system comprising: an electro-acoustic transducer for producing sounds in the vicinity of an ear, according to signals provided thereto; and a compensatory signal generator coupled with said electro-acoustic transducer, said compensatory signal generator producing a compensatory signal, according to at least a portion of a compensatory waveform, said compensatory waveform being determined according to ear otoacoustic emissions, said compensatory signal being employed to enhance said hearing, said compensatory signal generator providing said compensatory signal to said electro-acoustic transducer.

2. (Original) The system according to claim 1, further comprising an electro-acoustic amplifier coupled between said compensatory signal generator and said electro-acoustic transducer, wherein said electro-acoustic amplifier produces an amplified compensatory signal by amplifying said compensatory signal, and wherein said electro-acoustic amplifier provides said amplified compensatory signal to said electro-acoustic transducer.

3. (Original) The system according to claim 1, wherein said compensatory signal generator comprises: a waveform storage unit for storing said compensatory waveform; a processor coupled with said waveform storage unit, said processor producing said compensatory signal according to at least a portion of said compensatory waveform; and a digital to analog converter coupled between said processor and said amplifier, said digital to analog converter converting said compensatory signal from digital format to analog format.

4. (Original) The system according to claim 1, further comprising an ambient acousto-electric transducer coupled with said electro-acoustic transducer, wherein said ambient acousto-electric transducer further produces an ambient sound signal respective of an ambient sound.

5. (Original) The system according to claim 4, further comprising an ambient sound amplifier coupled with said ambient acousto-electric transducer and with said electro-acoustic transducer, wherein said ambient sound amplifier produces an amplified ambient sound signal by amplifying said ambient sound signal, and wherein said ambient sound amplifier provides said amplified ambient sound signal to said electro-acoustic transducer.

6. (Original) The system according to claim 5, further comprising a volume user interface coupled with said ambient sound amplifier, said volume user interface being employed to vary an ambient sound signal amplitude of said ambient sound signal.

7. (Original) The system according to claim 1, further comprising: an ambient acousto-electric transducer producing an ambient sound signal according to an ambient sound; at least one band-pass filter, each of said at least one band-pass filter being coupled with said compensatory signal generator and with said ambient acousto-electric transducer, each of said at least one band pass filter being associated with a respective predetermined band; and at least one triggered acoustic modifier, each of said at least one triggered acoustic modifier being coupled with a respective one of said at least one band-pass filter, and with said electro-acoustic transducer, wherein each of said at least one band-pass filter, filters signals provided thereto according to said respective predetermined band and provides a band filtered signal to said respective triggered acoustic modifier, wherein said at least one triggered acoustic modifier produces a modified signal by modifying said band filtered signal, when modification triggering criteria apply, wherein said at least one triggered acoustic modifier provides said modified signal to said electro-acoustic transducer, and wherein said at least one triggered acoustic modifier ceases to produce said modified signal, when said modification triggering criteria cease to apply.

8. (Original) The system according to claim 7, wherein said modification triggering criteria is selected from the list consisting of: an ambient sound energy of said ambient sound signal to be greater than an upper level threshold and a lower level threshold; a combined energy of a combination of said ambient sound signal and said compensatory signal to be greater than said upper level threshold and said lower level threshold; said ambient sound energy to be greater than a threshold; and said combined energy to be greater than said threshold.

9. (Original) The system according to claim 8, wherein each of said upper level threshold and said lower level threshold, is different for different ones of said at least one triggered acoustic modifier.

10. (Original) The system according to claim 8, wherein the amplitude of each of said ambient sound signal and said compensatory signal, is less than said upper level threshold.

11. (Original) The system according to claim 7, wherein each of said at least one band-pass filter is respective of a different critical band of said ear.

12. (Original) The system according to claim 7, wherein said compensatory signal generator comprises: a waveform storage unit for storing said compensatory waveform; and a processor coupled with said waveform storage unit, with each of said at least one band-pass filter and with each of said at least one triggered acoustic modifier, said processor producing said compensatory signal according to at least a portion of said compensatory waveform, wherein said processor determines at least one value for said modification triggering criteria, and wherein said processor provides a modification triggering signal respective of said at least one determined value, to said at least one triggered acoustic modifier.

13. (Original) The system according to claim 12, further comprising an ambient analog to digital converter coupled with said ambient acousto-electric transducer, said processor, and with

said at least one band-pass filter, wherein said ambient analog to digital converter produces a digital ambient sound signal, by converting said ambient sound signal from analog format to digital format, wherein said processor determines an ambient sound amplitude of said ambient sound signal, and wherein said processor provides an ambient sound amplitude signal respective of said determined ambient sound amplitude, to said ambient analog to digital converter.

14. (Original) The system according to claim 7, further comprising a digital to analog converter coupled between said electro-acoustic transducer and said at least one triggered acoustic modifier, wherein said digital to analog converter produces an analog modified signal, by converting said modified signal from digital format to analog format, and wherein said digital to analog converter provides said analog modified signal to said electro-acoustic transducer.

15. (Original) The system according to claim 1, further comprising a physiological monitor coupled with said compensatory signal generator and with at least a portion of the body of a user, wherein said physiological monitor detects a physiological parameter of said user, wherein said physiological monitor provides a physiological signal respective of said detected physiological parameter to said compensatory signal generator, and wherein said compensatory signal generator produces said compensatory signal according to said physiological signal and at least a portion of said compensatory waveform.

16. (Original) The system according to claim 15, wherein said physiological parameter is selected from the list consisting of: said ear otoacoustic emissions; cardiac parameter; respiration rate; basal body temperature; Brownian motion of a fluid contained in a cochlea of an ear of said user; and ion exchange rate of a cell membrane of said cochlea.

17. (Original) The system according to claim 1, further comprising an otoacoustic emissions profile source coupled with said compensatory signal generator, wherein said otoacoustic emissions profile source provides at least one otoacoustic emissions profile to said compensatory

signal generator, and wherein said compensatory signal generator produces said compensatory signal according to said at least one otoacoustic emissions; profile and at least a portion of said compensatory waveform.

18. (Original) The system according to claim 1, further comprising an otoacoustic acousto-electric transducer coupled with said compensatory signal generator, said otoacoustic acousto-electric transducer detecting said ear otoacoustic emissions, wherein said otoacoustic acousto-electric transducer provides an otoacoustic emissions signal respective of said detected ear otoacoustic emissions, to said compensatory signal generator, and wherein said compensatory signal: generator produces said compensatory signal according to said otoacoustic emissions signal and at least a portion of said compensatory waveform.

19. (Original) The system according to claim 1, further comprising a mode selection user interface coupled with said compensatory signal generator, said mode selection user interface being employed for setting said system at a selected operating mode.

20. (Original) The system according to claim 1, wherein at least a portion of said compensatory waveform is substantially anti-phase relative to at least another portion of an otoacoustic emissions waveform of said ear otoacoustic emissions, and wherein at least a portion of said sounds is substantially anti-phase relative to at least another portion of an otoacoustic emissions sound produced by said ear.

21. (Original) Method for enhancing the hearing of certain sounds, the method comprising the procedures of: producing a compensatory signal according to at least a portion of a compensatory waveform, said compensatory signal being employed to enhance said hearing, said compensatory waveform being determined according to ear otoacoustic emissions; and producing a compensatory sound in the vicinity of said ear, according to said compensatory signal.

22. (Original) The method according to claim 21, further comprising a preliminary procedure of modifying at least a portion of said compensatory waveform.

23. (Original) The method according to claim 22, wherein said procedure of modification comprises a sub-procedure of determining general modification parameters.

24. (Original) The method according to claim 22, wherein said procedure of modification comprises a sub-procedure of detecting ambient sound characteristics.

25. (Original) The method according to claim 22, wherein said procedure of modification comprises a sub-procedure of detecting at least one bodily signal respective of a bodily activity.

26. (Original) The method according to claim 25, wherein said bodily activity is selected from the list consisting of: said ear otoacoustic emissions; cardiac activity; respiration rate; basal body temperature; Brownian motion of a fluid contained in a cochlea of an ear; and ion exchange rate of a cell membrane of said cochlea.

27. (Original) The method according to claim 21, further comprising a preliminary procedure of determining said compensatory waveform according to otoacoustic emissions sounds, before performing said procedure of producing said compensatory signal.

28. (Original) The method according to claim 27, further comprising a procedure of storing said compensatory waveform.

29. (Original) The method according to claim 27, wherein said otoacoustic emissions sounds are produced according to otoacoustic emissions selected from the list consisting of: spontaneous otoacoustic emissions; distortion product otoacoustic emissions; and transient-evoked otoacoustic emissions.

30. (Original) The method according to claim 27, further comprising a preliminary procedure of detecting said otoacoustic emissions sounds.

31. (Original) The method according to claim 21, further comprising a procedure of amplifying said compensatory signal, after performing said procedure of producing said compensatory signal.

32. (Original) The method according to claim 21, further comprising a procedure of converting said compensatory signal from digital format to analog format, after performing said, procedure of producing said compensatory signal.

33. (Original) The method according to claim 21, further comprising a procedure of producing an ambient sound signal by detecting ambient sound, before performing said procedure of producing said compensatory sound, wherein said compensatory sound is produced according to a combination of said compensatory signal and said ambient sound signal.

34. (Original) The method according to claim 33, further comprising a procedure of amplifying said ambient sound signal.

35. (Original) The method according to claim 21, wherein at least a portion of said compensatory waveform is substantially anti-phase relative to at least another portion of an otoacoustic emissions waveform of said ear otoacoustic emissions.

36. (Original) The method according to claim 21, wherein said compensatory signal is produced according to frequencies selected from the list consisting of: frequencies within an otoacoustic emissions waveform of said ear otoacoustic emissions; frequencies between two adjacent frequencies within said otoacoustic emissions waveform; and frequencies within and outside of said otoacoustic emissions waveform.

37. (Original) Method for enhancing the hearing of certain sounds, the method comprising the procedures of: producing a compensatory signal for at least selected ones of a plurality of predetermined bands, said compensatory signal having characteristics for enhancing hearing of sounds within said selected predetermined bands; applying modification triggering criteria corresponding to each of said selected predetermined bands, according to at least a respective portion of an ambient sound signal; and modifying said ambient sound signal corresponding to each of said selected predetermined bands, according to said compensatory signal, when said modification triggering criteria apply, thereby producing a modified signal.

38. (Original) The method according to claim 37, further comprising a preliminary procedure of classifying said ambient sound signal according to said predetermined bands.

39. (Original) The method according to claim 37, further comprising a preliminary procedure of detecting ambient sound, thereby producing said ambient sound signal.

40. (Original) The method according to claim 37, further comprising a procedure of producing modified sound according to said modified signal.

41. (Original) The method according to claim 37, wherein each of said predetermined bands corresponds with a different critical band of an ear.

42. (Original) The method according to claim 37, wherein said modification triggering criteria is selected from the list consisting of: enabling modification of said ambient sound signal when an ambient sound energy of said ambient sound signal is greater than an upper level threshold, and disabling said modification when said ambient sound energy is lower than a lower level threshold; enabling said modification when said ambient sound energy is greater than a threshold and disabling said modification when said ambient sound energy is lower than said threshold; enabling said modification when a combined energy of a combination of said ambient

sound signal and said compensatory signal is greater than said upper level threshold, and disabling said modification when said combined energy is lower than said lower level threshold; and enabling said modification when said combined energy is greater than said threshold and disabling said modification when said combined energy is lower than said threshold.

43. (Original) The method according to claim 42, further comprising a procedure of controlling the value of each of said upper level threshold and said lower level threshold.

44. (Original) The method according to claim 42, further comprising a procedure of controlling the value of said threshold.

45. (Original) The method according to claim 42, further comprising a procedure of setting the amplitude of said ambient sound signal, according to said upper level threshold and said lower level threshold.

46. (Original) The method according to claim 42, further comprising a procedure of setting the amplitude of said compensatory signal, according to said upper level threshold and said lower level threshold.

47. (Original) The method according to claim 42, wherein each of said upper level threshold and said lower level threshold is determined according to criteria selected from the list consisting of: speech recognition threshold of an ear; amplitude of said ambient sound signal, and dynamic range of said ear.

48. (Original) The method according to claim 37, wherein said procedure of modification includes sub-procedures selected from the list consisting of: adding said respective portion to said compensatory signal corresponding with a respective one of said selected predetermined

bands; and modulating said respective portion with said compensatory signal corresponding with said respective selected predetermined band.

49. (Original) The method according to claim 48, further comprising a procedure of amplifying the amplitude of at least a portion of said respective portion, by inducing stochastic resonance in said respective portion.

50. (Original) The method according to claim 37, wherein said ambient sound signal is selected from the list consisting of: wired communication system signal; wireless communication system signal; broadcast television signal; broadcast radio signal; unicast communication signal; multicast communication signal; anycast communication signal; pre-stored retrieved signal; and machine generated signal.

51. (Original) The method according to claim 37, further comprising a preliminary procedure of controlling the amplitude of said ambient sound signal, via a volume user interface.

52. (Original) The method according to claim 37, wherein the amplitude of each of said ambient sound signal and said compensatory signal is determined according to, parameters selected from the list consisting of: physiological status of a user; compensatory waveform determined according to ear otoacoustic emissions; sensational level of an ear; said ear otoacoustic emissions; and a combination thereof.

53. (Original) The method according to claim 52, wherein said physiological status is determined by monitoring a bodily activity selected from the list consisting of: said ear otoacoustic emissions; cardiac activity; respiration rate; basal body temperature; Brownian motion of a fluid contained in a cochlea of an ear; and ion exchange rate of a cell membrane of said cochlea.

54. (Original) The method according to claim 37, further comprising a preliminary procedure of receiving a user selection of a mode for enhancing hearing of said sounds, via a mode selection user interface.

55. (Original) The method according to claim 54, wherein the amplitude of each of said ambient sound signal and said compensatory signal is determined according to said user selected mode.

56. (Original) The method according to claim 37, wherein the amplitude of each of said compensatory signal and said ambient sound signal, is determined according to an ear otoacoustic emissions portion of general sounds detected in the vicinity of an ear, wherein said general sounds include said ear otoacoustic emissions portion.

57. (Original) The method according to claim 37, further comprising a procedure of converting said modified signal from digital format to analog format.

58. (New) A method according to claim 21, further comprising providing an otoacoustic emissions profile source, the otoacoustic emissions profile source producing an otoacoustic emissions profile for use in generating the compensatory signal to produce the compensatory sound.